

2. On the Breeding of the Weka Rail and Snow-Goose in Captivity. By F. E. BLAAUW, C.M.Z.S.

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I. THE WEKA RAIL (*Ocydromus australis*).

A pair of Wekas, kept in a small enclosure in my park, began to exhibit the first signs of breeding in the end of February of last year (1898). The birds became very noisy and were heard screaming in concert, as well during the day as during the night. The male became extremely attentive to the female, and, if fed with bread or anything else that was acceptable to him, would take as much of the food in his bill as it could possibly hold, and run towards the female, calling her by a peculiar drumming noise. As soon as she came to him, he would give her the whole of his provisions, and would only eat himself what she left. He delighted so much in feeding her that, if she were present whilst the food was thrown before them, he would snatch it away from her in great haste to present it to her afterwards.

The beginning of the nesting-operations was a rather deep circular hole, which the male excavated with his powerful bill under a box-tree. The female soon began to join him in this work, and afterwards would sit in it whilst the male went about in search of material for the nest. This consisted of loose grass and hay, but chiefly of grass dug out with the roots adhering to it, which he would bring in big mouthfuls to the female, who set it in order about her. This went on for several days, the nest growing very large considering the size of the birds. It measured ultimately fully 25 inches across, the borders being raised about 11 inches, whilst the depression in the middle was so deep as to almost entirely hide the bird which sat in it.

Both male and female took part in the construction of the nest, but the bringing and collection of the materials seemed to be exclusively the work of the male. On the 26th of March the first egg was laid, and the following five were laid with generally, but not always, one day between each egg. The eggs are of a buffish white, with lighter and darker red spots, which have the appearance of some being on the surface of the shell and of others being under it. The eggs resemble closely those of *Aramides ypecaha* from the Argentine Republic. After three eggs had been laid the birds began to sit, each sitting alternately. The male sat mostly during the night and the female during the day, but sometimes, though seldom, the reverse would occur. This lasted during a fortnight, and I thought everything was going on as it should, when, one morning, I was much grieved to find that all the eggs were gone—eaten by the parent birds, as I found out afterwards, and the whole nest was left in disorder.

A few days after this catastrophe the Rails began to pair again and to build a new nest. Again eggs were laid, seven in number

this time, and the birds commenced to sit. My hopes of a good result ran high, as special orders had been given not to disturb the birds on any account, because I had attributed their former bad behaviour to some annoyance that had put them out of temper. During ten days incubation took place quite regularly, when again the nest was found turned upside down, with six of the eggs broken or eaten by the birds, who were still busy at this most unnatural proceeding. The seventh egg was saved and put under a bantam-hen, which brought it to maturity, so that in due time a very lively little black Weka-Rail chicken burst the shell.

Incubation had lasted, including the ten days during which the Rails had sat, 28 days. The chick was of nearly uniform slightly brownish black all over, with jet-black eyes, a slightly curved black bill, and stout reddish-black legs. The down being very long and stiff, gave the bird a very fluffy appearance, and a great resemblance to the chick of the Common Fowl.

In the chick of *Aramides ypecaha* the down is much shorter and velvety in texture, so that the form of the body remains plainly visible. The curious resemblance between the eggs of *Aramides ypecaha* and *Ocydromus australis* is, therefore, not continued in the chicks of these two very different members of the Rail family.

The little *Ocydromus*-chick uttered constantly a sharp piping note, and showed almost from the first day the intelligent boldness of its parents. It soon found out that its foster-mother had little patience in feeding it from its bill, as was expected by the little Weka, and that it had to look to the keeper's fingers for its supply of food, which chiefly consisted of small earthworms and little crumbs of bread. I had every reason to believe that it would thrive, when, unfortunately, it was discovered that it preferred mealworms to everything else. These consequently were given to it, but seemed to have disagreed with it, for its digestion became disordered, and after a couple of days' illness it died when just a week old.

The old birds went on making nests and laying a great number of eggs. Several of these were eaten, as the first two clutches were; a number were also saved and placed under common hens, but they all proved to be unfertilized, so that I did not succeed in getting any more chicks. This strange propensity of eating their own eggs was not restricted to this individual pair of birds, as another pair let loose in a wooded enclosure of about three acres behaved in just the same way. The birds made a nest, sat on the eggs during a few days, and then destroyed everything. This last pair was of a most ferocious disposition, and the male even destroyed some young Rheas which were running about along with their father in the same enclosure. They also killed other birds.

All Wekas are remarkable for their tameness and intelligent behaviour, so that, where their destructiveness is no hindrance, they make very amusing pets. They use their wings only when

running about, on which occasions they will keep them uplifted at different angles to their body. They can dig deep holes in the ground with their bills, and use this power to make their escape under a fence. My two pairs differed much in size; and in the larger pair the ground-tone of the plumage was very rufous, whilst in the smaller pair the ground-tone was more dusky. In both pairs, the males were larger than the females. They seem to be very hardy birds, as they walk about most contentedly in the snow.

II. THE SNOW-GOOSE (*Chen hyperboreus*).

Since the year 1887 I have possessed a pair of the white Snow-Goose (*Chen hyperboreus*). These birds were kept in company with a number of other aquatic birds on a small piece of ornamental water in my park. Every spring they paired, got very much excited, and attempted to wander away, but no eggs were laid.

Three years ago I purchased what was supposed to be a pair, but which soon turned out to be two males of the Blue or Cassin's Snow-Goose (*Chen caerulescens*). One of these males constantly followed the pair of White Snow-Geese, and as he seemed not to be too intrusive, he was, after some lame attempts on the part of the white male to drive him away, allowed to do as he liked. This went on for two years, when, in the spring of 1898, the blue male began to assert himself more and more, and finally got the mastership over the white male, and entirely monopolized the white female. In the end of May they were frequently seen to pair, and one of the first days in June a nest was made near the edge of the pond, on a heap of dry reeds that happened to be there, and the first egg was laid. With one day between each egg, two more eggs followed, and the female, after having plucked an abundant supply of down from her own breast, began to sit.

A curious thing now occurred. The blue male kept active watch near the nest, and attacked furiously every living thing that came near. The white male, however, who had taken the most lively interest in the proceedings of his unfaithful spouse, not being allowed to come near the nest, kept watch on the other side of the water, just opposite the sitting bird, and there kept the coast clear, in exactly the same way as did the blue male on the side where the female actually sat.

Between the two the female was very successfully taken care of, for no accident happened, and on the 8th of July, that is after an incubation of 29 days, the three eggs produced three chicks, which were of a dark olive-green colour, ranging into slaty black on the upperside and into yellowish on the belly. The feet and legs and also the bill were black.

As for fear of Crows and vermin the family had to be removed into some safe place, I thought it right to give the white male some compensation for all he had had to undergo, and to reunite him with his rightful partner, leaving the usurper in the pond. Both the white birds seemed to be quite happy with this arrange-

ment, and took the greatest care of the chicks, as if everything was as it should have been.

The little birds grew extremely fast, so that at the age of seven weeks they were almost of the size of the parents, fully feathered, and able to fly. These first feathers presented a brownish slaty-grey colour all over the bird, the wing-coverts and tertiaries having lighter edges, the whole of the plumage being very glossy. The legs and bills, which had gradually turned from black into grey, now began to show signs of assuming the pinkish colour proper to the adult bird of this species. On the bills the pink became visible in stripes or lines.

At the age of eleven weeks the heads got white feathers and the brownish body-feathers began to be replaced, especially at the sides, by the more bluish-grey ones of the adult Cassin's Snow-Goose. At the present time (February 3rd, 1899) the heads are nearly white and the rest of the bodies are nearly moulted, the brownish-grey feathers being replaced by bluish-grey ones; so there is little doubt but that they will assume the typical plumage of *Chen caerulescens* without any undue mixture of white.

As when two good species cross, the offspring nearly always presents the mixed appearance of the parents, I consider this result of the interbreeding of my Blue and White Snow-Geese as an additional proof, if such were wanted, of the non-validity of the White and Blue Snow-Geese as separate species. The two forms being only colour-variations, there was no reason for a mixed coloration in the offspring. The young have simply taken the colour which is probably most adapted to the circumstances under which the birds live. In this case it was the plumage of *Chen caerulescens*. Judging from these facts, I also think it probable that the intermediate forms which are found in North America in a wild state are not so much the result of the interbreeding of the typical White and Blue forms, as the produce of a range of country where the circumstances which formed the White or Blue forms are not sufficiently pronounced.

3. On two Hares from British East Africa, obtained by Mr. Richard Crawshay. By W. E. DE WINTON, F.Z.S.

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(Plate XXIV.)

Mr. Richard Crawshay, who is so well known as a traveller and contributor to our knowledge of the fauna of Africa, has lately sent to the National Collection two Hares from British East Africa. One of these belongs to an already described but little known species, hitherto recorded only from North-eastern Somaliland; the other is a very distinct and apparently undescribed form, which I propose to name, in honour of the collector, *Lepus crawshayi*.